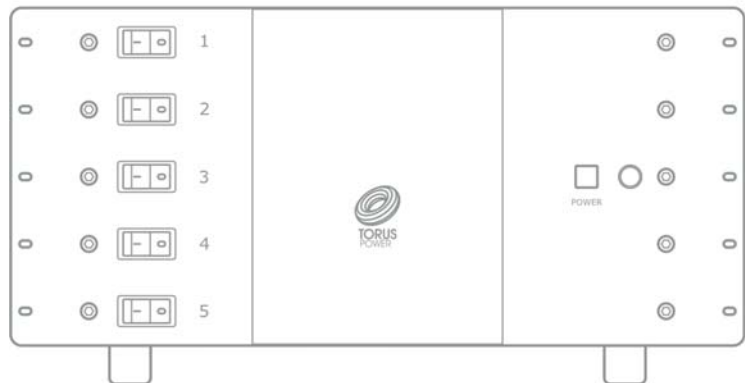




**TORUS**  
POWER™

## Owner's Manual



### Power Conditioners Audio / Video Power Isolation Units Rack Mount / Standalone

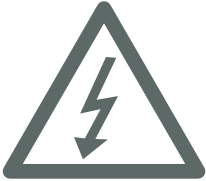
Model Number	Description	Input	Output
<b>A120-HFB-A5AB</b>	Balanced 100A	240V or 208V	5 x 120V 20A
<b>A090-HFB-A5AA</b>	Balanced 75A	240V or 208V	5 x 120V 15A

## Important Safety Instructions



**CAUTION!** To reduce the risk of electric shock and fire, do not remove the cover of this device. There are no user serviceable parts inside. Please refer all servicing to licensed service technicians.

**CAUTION!** The international symbol of a lightning bolt inside a triangle is intended to alert the user to uninsulated "dangerous voltage" within the device's enclosure. The international symbol of an exclamation point inside a triangle is intended to alert the user to the presence of important operating, maintenance and servicing information in the manual accompanying the device.



**CAUTION!** To prevent electrical shock, match wide blade of plug to wide slot, fully insert.

**CAUTION!** To reduce the risk of electrical shock, do not expose this equipment to rain or moisture.

**CAUTION!** To reduce the risk of electrical shock, ensure the voltage selector switch is selected to the appropriate supply voltage.

**CAUTION!** To reduce the risk of electrical shock, ensure the fuses are replaced with the appropriate fuse according to the unit markings.

1. Read Instructions—All safety and operating instructions should be read before operating the device.
2. Retain Instructions—The safety and operating instructions should be retained for future reference.
3. Heed Warnings—All warnings on the device and in the operating instructions should be adhered to.
4. Follow Instructions—All operating and safety instructions should be followed.
5. Water & Moisture—The device should never be used in, on or near water for risk of fatal shock.
6. Carts & Stands—The device should only be used on carts or stands recommended by the manufacturer.
8. Ventilation—The device should always be located in such a way that it maintains proper ventilation. It should never be placed in a built-in installation or anywhere that may impede the flow of air through its ventilation slots.
9. Heat—Never locate the device near heat sources such as radiators, floor registers, stoves or other heat-generating devices.
11. Power Cord Protection—Power cables should be routed so they are not likely to be stepped on or crushed by items placed on them or against them. Special attention should be paid to areas where the plug enters a socket or fused strip and where the cord exits the device.
12. Cleaning—The device should be cleaned in accordance with manufacturer's instructions.
13. Periods Of Non-Use—The device should be unplugged when not being used for extended periods.
14. Dangerous Entry—Care should be taken that no foreign objects or liquids fall or are spilled inside the device.

15. Damage Requiring Service—The device should be serviced by licensed technicians when:

- The plug or power supply cord has been damaged.
- Objects have fallen or liquid has spilled inside the device.
- The device has been exposed to moisture.
- The device does not appear to be operating properly or exhibits a marked change in performance.
- The device has been dropped or the enclosure becomes damaged.

16. Service—The device should always be serviced by licensed technicians. Only replacement parts specified by the manufacturer should be used. The use of unauthorized substitutions may result in fire, shock, or other hazards.

17. Do not position the equipment so that it is difficult to operate the disconnecting device (power cord).

18. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

19. **CAUTION** Units in this series are heavier than 55 kg (121.2 lb). Use safe practices when lifting.



≥55 kg (121.2 lb)



## Description

---

Torus Power PIUs (Power Isolation Units) combine the best surge suppression with unique toroidal transformer technologies from PLITRON to provide the ultimate in AC power conditioning and protection for sensitive audio and video equipment applications.

Units are available in either dual 120V (balanced) input or, in lower-power units, single 120V input.

Balanced input power from two standard 120V phases provides high input power and noise cancellation. Using balanced input power provides the benefits of symmetrical power without the requirement to use GFCI (ground-fault circuit interruption) outlets. GFCIs are prone to nuisance-trips. The toroidal isolation transformer steps-down the 240V input to 120V to power equipment. (Where 240V balanced input is unavailable, units may be configured for 208V operation.)

PIUs use ZeroSurge® patented series-mode surge removal filters to absorb dangerous voltage surges and safely dissipate them without using failure-prone MOVs (metal oxide varistors). Also, unlike MOV-based protection, voltage surges are not shunted to ground.

Isolation is combined with proven proprietary technologies from PLITRON in the over-sized toroidal transformer. NBT works as a low pass filter using the controlled leakage inductance and capacitances within the transformer to cancel common mode and differential mode noise. LoNo technology has been used for years by high-end audio companies who demand silent transformers. Imin technology reduces inrush currents. UST provides additional common mode filtering using a highly efficient faraday screen.

Low-impedance output with balanced high-power primary input provides the most unconstrained, yet protected, energy source available to your equipment.

## Shipping Carton & Packing Material

Please keep the original shipping box and all packing material. This will ensure the PIU is protected in future transport.

In the unlikely event you have a problem and must return it for service you must use the proper packing material.

Ship the PIU only in the original packing material, as the unit is not insurable by carriers otherwise.

## Placement & Ventilation

---

Torus Power PIUs are extremely efficient devices, however, they are also very high-power devices, and must be adequately cooled.

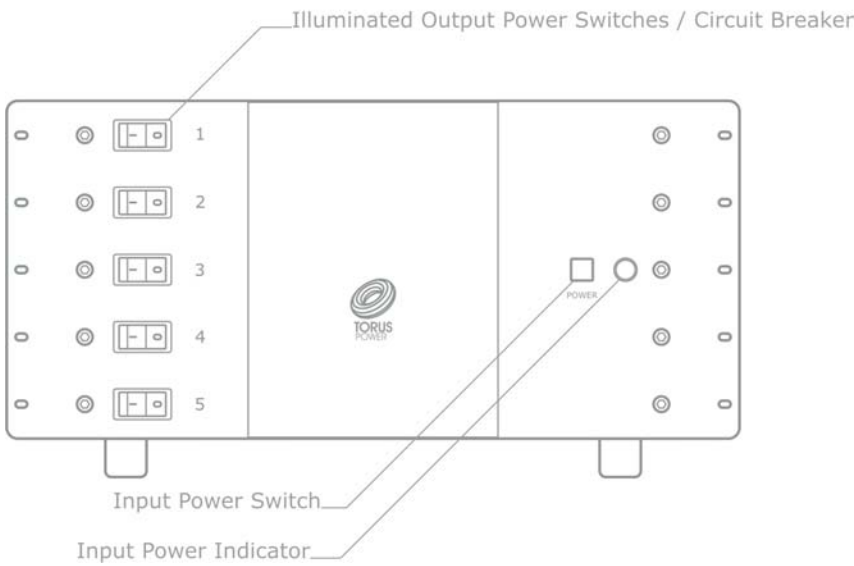
PIUs have ventilation slots on the base, side panels and the cover. Maintain at least 1" distance from each of these surfaces to anything else. Should your installation conditions be constricted, additional forced air-cooling may be necessary.

Do not install the PIU directly above heat-generating equipment.

Maintain at least 6" behind the PIU for adequate wiring space.



## Front Panel Layout



## Circuit Protection

The front panel output power switches are also circuit breakers. The switches correspond to groups of receptacles on the rear panel.

When the power is on, the Switch is illuminated. When the breaker trips, the switch returns to its "off" position.

## Thermal Protection

Torus PIUs will shut-down if internal unit temperature reaches excessive levels.

## Power-Sharing Outputs

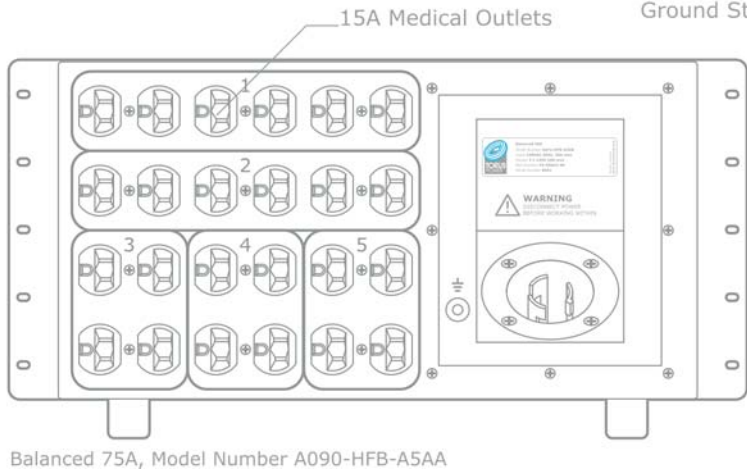
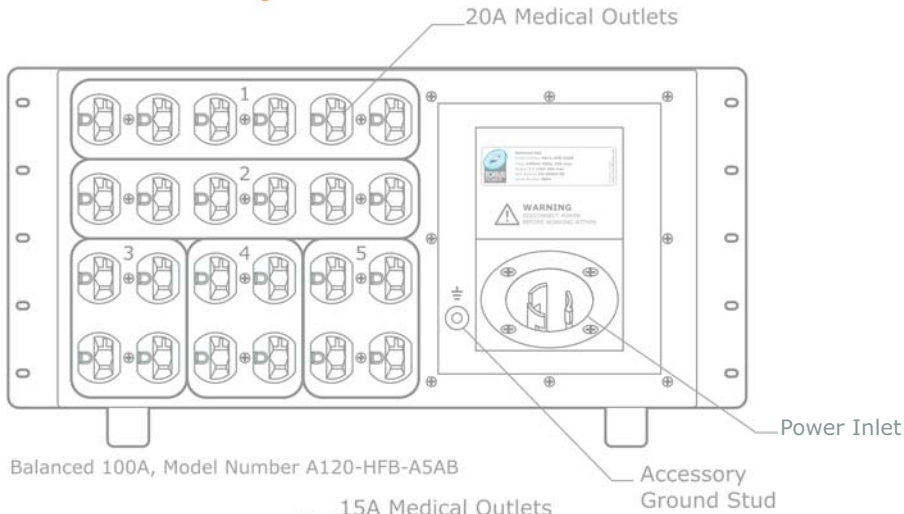
The front panel Output Power Switches are numbered to correspond with outlets on the rear panel. Each Switch/Breaker controls and protects a bank of outlets. However, all three outlet banks share a single winding (output) on the isolation transformer. This "Power-Sharing" allows huge excursions of current, up to and beyond the full power of the unit, to be available at any individual outlet, for instantaneous bursts of power.

## Electrical Specifications

Model Number	Input Voltage Nominal	Input Current Max	Output Rating	Output Power, max continuous	Load Regulation	Over-current Protection
A120-HFB-A5AB	Selectable 240VAC (2 x 120VAC, balanced) or 208VAC. Factory wired for 240VAC 60Hz	50A	Three Circuits each: 20A	7,200VA	1.5%	Input: 50A time-delay fuses (2) Internal Output: 20A circuit breakers (5), illuminated, front panel
A090-HFB-A5AA	Range +/- 10% voltage 57-63Hz	40A	Three Circuits each: 15A	5,400VA	2%	Input: 40A time-delay fuses (2) Internal Output: 16A circuit breakers (5), illuminated, front panel



## Rear Panel Layout



## Warning

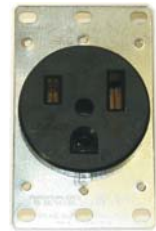
### Installation by qualified electrician required.

A dedicated circuit is required for these units. Wall outlets for 240VAC are rated at 250V and will require special installation. Dedicated outlets, or any household or facility wiring should be installed by a licenced electrician to local codes.

## Wall Receptacle

Torus PIUs are high-power products. The outlets they are plugged into should be sufficient to provide the current to operate them without tripping circuit breakers within your junction panel.

Pictured below is the suggested receptacle type for installation.



NEMA 6-50R

## Line Cord



**Equipment end:** L6-50P TWIST-Lock 2 pole, 3 wire grounding, 50A 250V  
**Plug:** 6-50P Straight Blade, 2 pole, 3-wire grounding, 50A 250V  
**Cord:** 3 x 6AWG  
**Length:** 2.5 m

The line cord assembly may be shortened. The plug-plate may also be rotated 90, 180 and 270 degrees to have the cord exit the wall receptacle as desired.

**Warning: Any modification of the plug assembly must be performed by a certified electrician.**

## Mechanical Specifications

Model Number	Input (Inlet) Connector (Rear Panel)	Line Cord (included) (details above)	Suggested Wall Receptacle	Output Connector (Rear Panel)	Weight	Size (w" x d" x h")
A120-HFB-A5AB	TWIST-LOCK 2-Pole 3 wire grounding 50A, 250V	NEMA 6-50P, 6AWG 50A TWIST-LOCK	NEMA 6-30R 50A - 250V	Medical-grade duplex 20A Qty 12 (24 outlets)	220 lbs.	19 x 21 x 8.75
A090-HFB-A5AA	NEMA L6-50P			Medical-grade duplex 15A Qty 12 (24 outlets)	188 lbs.	



## Warranty

---

Torus Power products are warranted to be free from manufacturing defects for a minimum of five years from the original date of sale. This includes parts, labour and return shipping to the first registered owner and all subsequent registered owners. Warranty coverage is extended to applicable products registered or having proof-of-purchase (sales invoice, etc.).

In the event of a defect or malfunction, Torus Power will remedy the problem by repair or replacement, as we deem necessary, to restore the product to full performance.

This warranty is considered void if the defect, malfunction or failure of the product or any component part was caused by damage (not resulting from a defect or malfunction) or abuse while in the possession of the customer. Failure to fully comply with Torus Power operating instructions, voids the warranty.



Torus Power products are marketed worldwide through Bryston Limited.  
For sales contact  
jamestanner@bryston.ca  
www.bryston.ca



[www.TorusPower.com](http://www.TorusPower.com)

Torus Power  
PO Box 30030  
Toronto, ON M3J 3L6  
Canada  
416-667-8473

Specifications subject to change without notice.  
© Torus Power 2007

ZeroSurge is a registered trademark of Zero Surge Inc.